SBEE Cables (India) Limited # 29, J.C.W. Industrial Estate, 11 th KM, Kanakapura Road, Bangalore - 560 062 (INDIA)	TEST REPORT Type Test - As Per - IS 694: 2010	Doc. No. : F/FT/02 Rev No : 00 Page : 01 off 01

Customer : Kumar Electricals **Date:- 02.07.2022**

PO. NO. KE:PO:00034:2022-23 dtd. 08.06.2022

Description: 1 Core X 4 Sq.mm ,Stranded (Circular) Class 2, Aluminium Conductor,PVC Type A FR Insulated Single Core Cable.

Total Qty :- 100 mtrs X 50 Coils+ 90 mtrs		No.of Sample	1	2	4
		Qty (Mtrs)	100	100	100

Sr.No.	Description	Units	Specified Value	Observed Value		
	Cable Type			AY		
	Size of Cable	Sq.mm		1 Core X 4 Sq.mm		
	Standard Applicable			IS 694 : 2010 , IS: 8130, IS: 5831		
	Voltage Rating	Volts		1100 Volts		
1	**Conductor (8130)**					
	a) No. of strands	Nos	7	7	7	7
	b) Type of Conductor			Aluminium Conductor		
	c) Strand Diameter (Before Stranding)	mm	0.85 ± 0.015	0.845 - 0.853	0.848 - 0.855	0.848 - 0.853
	d) Tensile Test (before stranding)	N/mm^2	100 (Min)	112	109	115
	e) Wrapping Test (before stranding)		Should not be break	Passed	Passed	Passed
	f) Conductor resistance at 20 oC	ohms/km	7.41 (Max)	6.95	6.98	6.94
2	**Test on PVC Insulation (IS- 5831)**					
	a) Type of Insulation		Type A (FR) PVC	Type A (FR) PVC		
	b) Colour of Insulation		Black	Black		
	c) Thickness of Insulation	mm	0.80 (Nom)	0.95	0.92	0.92
	d) Dia Over Insulation	mm	-	4.55	4.58	4.55
	e) Volume Resistivity at					
	27^{O} deg C	Ohm-Cm	$1 X 10^{13}$ (Min)	$4.4 X 10^{13}$	$4.3 X 10^{13}$	$5.2 X 10^{13}$
	70^{O} deg C	Ohm-Cm	$1 X 10^{10}$ (Min)	$4.8 X 10^{10}$	$4.2 X 10^{10}$	$3.0 X 10^{10}$
	f) Insulation Resistance test at					
	27^{O} deg C	MΩ/km	36.7 (Min)	210	200	210
	70^{O} deg C	MΩ/km	0.037 (Min)	0.215	0.205	0.215
	g) Water Immerssion test					
	AC Test (6 kv (rms) for 5 minutes)	rms	To Withstand	Withstood		
	DC test (1.2 kv DC test for 240 hrs)	rms	To Withstand	Withstood		
	h) Spark Test (In Process Test)	rms	6 kv AC	Withstood		
	a) Without ageing					
	i) Tensile Strength	N/mm2	12.5 (Min)	17	16.88	17.05
	ii) Elongation	%Ω	150 (Min)	262	272	266
	a) Without ageing					
	Tensile Strength	N/mm2	12.5 (Min)	14.39		
	Elongation	%Ω	150 (Min)	245		
	b) After ageing in Air Oven					
	Tensile Strength	N/mm2	12.5 (Min)	16.12		
	Variation	%	±20 (Max)	-12.02		
	Elongation	%	150 (Min)	215		
	Variation	%	±20 (Max)	12.24		
	c) Loss of Mass	mg/cm2	2.0 (Max)	0.6245		
	d) Hot deformation (Depth of indentation)	%	50 (Max)	15	14	12
	e) Heat shock test		No sign of cracks	No sign of cracks		
	f) Shrinkage Test	%	4.0 (Max)	1.4	1.3	1.2
	g) Thermal Stability	Minutes	80 (Min)	127	145	142
	h) Cold bend		No sign of cracks	No sign of cracks		
	FR Properties					
	Oxygen Index Test (ASTM D 2863)	%	29 (Min)	32.3		
	Temperature Index (ASTM D 2863)	°C	21 at temp of 250 °C (Min)	380		
	Flamability test					
	Length of unchared portion from bottom edge of the top clamp	mm	50 (Min)	430	440	410
	Period of burning after removal of flame	second	60 (Max)	5	6	4
4	Embossing/ Printing on Cable		Visual	SBEE Cables 4.0 Sq mm 1100 Volts AY (FR) ISI ISI 694 2010 CM/L NO 6139768		
5	**High Voltage test at room temp.**	3kv (rms) for 5 minutes		Withstood		

Tested by

For SBEE CABLES (INDIA) LIMITED

Approved by

Quality Control Incharge